



Admirably situated at the east end of Lake Ramsay, with excellent swimming and sports facilities, these picnic grounds leased and equipped by Frood Welfare Association have been the scene of very successful picnics staged by the Frood Welfare and by the Copper Cliff Benefit Association. Photo shows a portion of the Frood picnic crowd gathered around the refreshment counters. At both events races, softball matches, pie-eating contests, and other features contributed to thoroughly enjoyed programs. Free ice cream was distributed in copious quantities to the kiddies, who took full advantage of this golden opportunity. The initiative of the sponsoring Associations evoked a great deal of favorable comment, and the popular picnics will probably be held annually in the future. Always a valuable addition to any entertainment, the Coniston Band is seen in the foreground.

## Employees' Club Under Construction in Sudbury

Another feature of The International Nickel Company's program for the entertainment and welfare of its employees is announced by Donald MacAskill, Vice-President and General Manager.

Construction has commenced of INCO Employees' Club, a recreation and amusement building in Sudbury.

INCO Employees' Club will be bounded by Monck St., Fir Lane, and Fir St., the latter to be opened in the near future by the City. The new building will open off Monck St., with a foyer containing ticket offices, cloakroom, etc.

### 4 BADMINTON COURTS

The auditorium will be marked off for four badminton courts, and special arrangements will make it possible to clear the floor for dancing, badminton, etc., within a

few minutes.

On the same floor as the auditorium will be a lounge, a reading room supplied with current periodicals, a kitchen, and quarters for the building superintendent.

On a ground floor below the auditorium and facing on Fir St., will be a gymnasium, ladies' and men's dressing and shower rooms, a billiard and pool room, six bowling alleys, and the boiler room.

On account of the narrowness of Fir Lane, the new building will be built in 15 ft. on this frontage to obtain more light. The vacant area thus allowed will be landscaped.

In addition to construction of INCO Employees' Club, The International Nickel Company will remove the Monck St. offices which at present house its Sudbury medical

and employment centre, and will replace them with new quarters adjacent to the Employees' Club.

The new medical centre will open off Monck St., and will include a doctors' consultation room, a nurses' room, ladies' and men's waiting rooms, enquiry desk and office, and examining rooms.

The employment office will face Fir St., and besides offices and waiting rooms will be provided with examining booths.

## General Office's Staff Will Picnic

Balances, elevations, depletions, etc., will get a well-earned rest Saturday afternoon, August 21, when members of the General Office staff and associate departments banish dull care at their first annual picnic.

The event will be staged at Dewdrop Inn, Long Lake, commencing at 2.00 o'clock. Softball, hoss-shoe pitching, water races, canoe-tilting, foot races, novelty races, and other attractions are billed.

# REAL SUCCESS CROWNS FIRST LEVACK CELEBRATION

**Levack:**—Dominion Day was Field Day for Levack, and although the weather was not just what it might have been, the event came off in great style. Softball, football, mucking contest, races, etc., were on the program. A big crowd gathered at this "Lucerne of Northern Ontario" to watch and take part.

Two handsome challenge trophies, presented by the Welfare Association for softball and football, were up for competition. Only one game of the softball tournament could be played, however. Brown's shift defeated the Surface team 11-7 in the morning, but were unable to tackle the Rock-house lineup in the evening on account of the heavy rain. For the football trophy the Surface "Blues" played the initial game of the competition against the Underground "Reds," defeating them 3-2.

Fireworks also had to be postponed on account of the weather but were set up and set off on the next night, the display causing much excitement, especially amongst the youngsters.

## POPULAR DANCE

The Community Hall was taxed to capacity for the Dominion Day dance which drew practically everybody in town. Old-time square dancing and modern round dancing was the program provided, with the Levack Orchestra, under the leadership of Guy Armstrong, supplying the music. At 12.30 the draw for the lucky tickets was made, Mrs. C. H. Stewart drawing the winning numbers out of the barrel. Prize winners were:

Ticket No. 1172—Lorne Kutchaw, Levack, Gentleman's Bulova Wrist Watch; Ticket No. 2748—Sudbury Brewing and Malting Co., Sudbury, Mantle Clock; Ticket No. 655—George Bisson, Levack, Waterman's Pen and Pencil Set; Ticket No. 581—Andrew Shuparsky, Levack, Thermos Picnic Jug; Ticket No. 791—F. C. Fielding, Copper Cliff, Shopping Bag; Ticket No. 221—J. Blais, Sudbury, Brownie Camera.

Winners of the \$1.00 cash prizes were: Ticket No. 2266—J. Graham, Levack; Ticket No. 1083—Herman Gordon, Levack; Ticket No. 364—R. Moodie, Levack; Ticket No. 964—D. A. Spencer, 56 Cedar St., Sudbury; Ticket No. 1386—Eric Tiplady, 17 Power Street, Copper Cliff.

On the grounds during the day, and at the dance in the evening, refreshments were provided by the Ladies' Auxiliary under the Presidency of Mrs. R. McLeod, with Mrs. Jenkinson, Vice-President, Mrs. Herman Thompson, Secretary, and Mrs. James Smith, Treasurer. Assisting in the booths were, Mrs. Alex Killah, Mrs. Jas. Robb, Mrs. Frank Hurst, Mrs. Guy Armstrong, Mrs. Fred Thornton.

## WINNERS OF RACES

Girls 6 and under—1 Joyce Kirk; 2 I. White; 3 Annie Bobiy.

Girls 8 and under—1 Aileen Simon; 2 Fay Shillington; 3 M. Green.

Girls 10 and under—1 H. Bobiy; 2 M. Robb; 3 I. Hykins.

Girls 12 and under—1 V. Koski; 2 Barbara Wilson; 3 V. Reid.

Boys 8 and under—1 B. Robb; 2 E. Mallette; 3 B. Bobiy.

Boys 10 and under—1 J. Killah; 2 S. Wilson; 3 G. Mallette.

Boys 12 and under—1 E. Simon; 2 A. Robb; 3 S. Wilson.

Boys 15 and under—1 W. Wilson; 2 A. Mallette; 3 R. Bolton.

Three-legged race—Mrs. Herman Thomp-



Keen interest has been aroused in softball and football at Levack since the presentation by the Welfare Association of two fine challenge trophies. Football is the more active sport, with a match being played at least once a week. On July 1st the Surface "Blues" became the first holders of the Football Trophy (above), defeating the Underground "Reds" 3-2. Since that time the determined underground players have challenged twice for the trophy, finally winning it from Surface on July 16. Just how long they will be able to hold it is the subject of considerable speculation.

son and Mrs. Frank Jenkinson.

Married ladies' race—Mrs. Frank Jenkinson.

Married man's race—Frank Hurst.

Mucking contest—Sam Dusick and Rene Blais.

Bean Guessing contest sponsored by the Ladies' Auxiliary—Jos. Dusick.

## Loyal Finns Held Re-Opening of Hall

**Frood:**—A large crowd attended the re-opening of Sampo Hall at 468 Antwerp St., on August 8, marking the beginning of activities since the addition to the clubhouse of the Loyal Finns of Canada. Many members of this wide-awake organization are Frood men.

The excellently presented program was as follows: address, V. Kiiveri, secretary of the Sudbury branch of the Loyal Finns of Canada; piano solo, H. Chatelain, Copper Cliff; address, in English and Finnish, E. Lindblad, secretary of the central organization of the Loyal Finns of Canada; musical number, Finnish native instruments, Messrs. Tofferi and Nikulainen; poem, Miss Laina Tuuri; Xylophone solo, J. W. Risdale, Frood; folk dance, 16 members; free speeches; classical song, Mrs. Irene Varpio; humorous skit, A. Maenpaa; words of conclusion, V. Varpio, master of ceremonies.

## 150 Play in Softball Loops

**Port Colborne:**—Despite rain and mud, with which this district seems to be plentifully endowed this year, no less than 150 members of the INCO Athletic Association are getting softball as a regular diet. A total of 11 plant teams are active.

After lying dormant for several years, the Town softball league was resurrected this spring with a six-team group. At this writing the two entries from INCO have the league surrounded, with Bill Wincott's "INCOS" tied for first place and Walter Diamond's "Nickettes" holding undisputed possession of the cellar position. The "Nickettes" are really not as bad as the records would indicate, however, as they held the "INCOS" to a 2-1 score in one match, and have been dropping many of their games only by close scores.

## TWO DIVISIONS

With nine lineups competing in the Plant league, the schedule is divided into two divisions. As this is written "A" shift team is leading the first division and the Electrical Shop is on top of the heap in the second. Some first class softball exhibitions are being played.

The INCO entry in the Niagara District Soccer league got off to a wobbly start, dropping their first two matches by narrow margins, but came right back with a string of straight victories to tie for league leadership with St. Catharines.

## Muscle League Has Starkey Trophy

**Creighton:**—Five teams of brawny heavies are straining at the hemp in Creighton Welfare Association's Tug-o-War league, for which keenly interested Tom



Starkey has donated a handsome trophy, illustrated herewith.

At least once a week two of the squads are scheduled for a "pull," and crowds of from 100 to 125 turn out to root for their favorites.

At this writing Bill Salio's lineup, most of whom are recruited from 2300 level, are leading the league standing. Other teams are: Husson, Wells, Mumford, and Scotty.



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EDITORIAL OFFICE COPPER CLIFF, ONT.  
Don M. Dunbar, Editor

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## KEEPING PACE

R. H. Perry, who is master at a popular Ontario school for boys, and who is this summer vagabonding across Canada for the radio commission reporting in weekly broadcasts what he sees in his travels, was a recent visitor to INCO plants. Having stopped at many industrial centres, large and small, before he arrived, he was a fully qualified observer.

Mr. Perry was frankly amazed at the extent of the INCO operations, as are almost all visitors. "But what impresses me most," he said, "is how solid and thorough everything looks. I admit I expected to see hastily constructed, almost temporary buildings in the setup, because this industry has grown so fast. But there is nothing makeshift here. It's all built to stay. This Company certainly does nothing by halves."

We quote Mr. Perry particularly on account of his last sentence, which is so strikingly borne out by Vice-President Donald MacAskill's announcement of the new Employees' Club in Sudbury.

The rapid growth of world markets for nickel, an example of which is the big development of nickel plating described elsewhere in this issue, is no whim of commercial fate but rather the result of long and intensive efforts on the part of the Company's research department. The wide-scale production operations undertaken by INCO are built on no haphazard scheme but rather to a well-laid plan of vision and discernment. But, tremendous though the production and merchandising of nickel may have become, they are not for a moment being allowed to overshadow the Company's interest in the contentment and security of its employees.

INCO workers note with deep satisfaction how carefully their Company is keeping its program for their welfare in pace with its industrial expansion.

The Employees' Club in Sudbury will quickly become an institution in the INCO social fabric, not only for those of us who live in the city but also for everyone residing at the different plants. It will be one more keenly appreciated tie binding INCOites in what is obviously one of the continent's most harmonious industrial families.

## OLD BUT NEW

The article on nickel plating which is published in this issue brings out the fact that this use for nickel is both extensive and historic. Through Farraday's development in 1830 of the principle of electro-deposition of metals, nickel was given its first important opportunity to demonstrate its usefulness in the war against corrosion. During the subsequent century it has broadened the base of its participation in that never-ending fight through the development of alloys to which it imparts corrosion resistance, but nickel plating continues to be a steadily expanding application and a constant reminder of the contribution which the metal is making to industrial progress.



Now available for all INCO employees is this comfortably furnished lounge and reading room which has been opened at Memorial Community Hall in Copper Cliff. The reading material has been selected to cater to widely varying interests, and includes regular subscriptions to *Illustrated Canadian Forest and Outdoors*, *Cosmopolitan*, *Good Housekeeping*, *Readers Digest*, *MacLean's Magazine*, *Popular Mechanics*, *Canadian Geographical Journal*, *Time*, *Life*, *Silver Screen*, *Electric Journal*, *Popular Homecraft*, *Popular Science*, *English Geographical Magazine*, and the *Montreal Daily Star*. In addition, the table will carry current issues of the *INCO Magazine*, *Mond Magazine*, *Pen and Inco*, *Triangle*, and various Company trade papers like *Nickel Cast Iron News*, *Nickel Steel Topics*, etc. The lounge will be open regularly on week days from 8.30 a.m. to 11.00 p.m., and when dances or other social events are staged at the Hall it will remain open to accommodate the guests.

## Hot Scramble in Nickel Belt Softball

Never in the history of Nickel Belt softball has there been a hotter race than the one which has both players and fans on their toes this season. Every one of the four teams bunched in the league standing's first two positions has been out ahead at least once during the schedule to date.

Copper Cliff, Refinery, Frood, and Cochrane-Dunlop are the four clubs seeing-sawing for leadership as we go to press, with Copper Cliff momentarily in the lead and the other three grouped in second place. Capreol, Creighton, and Musketeers are the other clubs entered, any one of whom is still good for a playdown position.

One of the finest softball exhibitions the league has produced all season—and there have been many of them—was the tilt between Frood and Cochrane-Dunlop late in July. This dour struggle went 10 innings before Jim Dewey's men nipped out a 2-1 victory.

## Frood Field Day Slated for Sept. 6

**Frood:**—Plans are rapidly taking shape for Frood Welfare Association's mammoth Field Day at Athletic Park in Sudbury on Monday, September 6.

"The best field day's fielding you ever fielded" is the breezy guarantee Frood's

Welfare promises customers who turn out to this much heralded event. Track and field talent is certainly not lacking at Frood, and Ted Dandy and George "Shot Put" Walli are lining up what looks like some sizzling competition.

There will be games of all sorts, and various novel entertaining stunts calculated to keep the program moving briskly.

## Garson Concert Features Orchestra

**Garson:**—Another Welfare Association concert, held the evening of July 29, proved a real success. The members of the Garson Orchestra, which in the few months since it was organized has won a big following, presented the program. There wasn't a dull moment from start to finish.

Besides several numbers as a group, the musicians gave thoroughly enjoyable individual performances. O. Daoust drew a big hand for his old-time step dance, and returned later in the program with an accordion solo. Orchestra-leader Fred Desjardines blossomed out as a tap dancer de luxe, and his brother Eddie turned in a nifty step-dancing act. Other excellent numbers were the guitar solo by Murray McMaster and the Italian song by Tony Veranda. His tricky antics with the violin and mouth organ drew rousing applause for Walter Forbes.

Supt. J. B. Fyfe spoke briefly, and lunch was served. Old-time square dancing filled out the happy evening. Approximately 100 were present.

# Sequestered High Falls Is Nerve-Centre of Industry

The legend has it that sometime back before 1904 a French-Canadian lumberjack lost his life at John Creek in a log-jam, and that they recovered his body from the swirling waters of the Spanish and buried him on the bank of the river.

At any rate, when the engineers went into the bush in July of 1918 to build Big Eddy dam, they found a little grave marked by a piece of flat stone on which the name F. Normand had been picked out with an iron point.

## GROUND CONSECRATED

It was soon apparent that in the building of the new dam the simple grave would be destroyed, so in the bare rounded rock at one end of the dam site the engineers blasted out a hole, placed in it the rough box and remains, cemented over the opening, and at the head raised a little concrete cross with Normand's name on it. Later a priest came and consecrated the ground.

It is there today, this link with the days when lumbering pointed out the hydro-power possibilities of the Spanish river and beckoned men to come and create nerve-centres for industry.

Within half a mile of where Normand sleeps the long sleep, are throbbing turbines which can generate enough power to light half a million ordinary house bulbs, or run a million radios, or pump twenty million gallons of water to the top of the old brick stack at Copper Cliff every hour.

That's the march of time for you!

## BIG HYDRO CUSTOMER

INCO is one of the Ontario government's best hydro-power customers. Supplementing its purchases of government power is its own system of generating plants, although it buys more electric energy than it makes for itself.

INCO-made power is supplied by the Huronian Power Company system, a subsidiary of the parent company, with five plants. Three of them, two at High Falls and one just half a mile away at Big Eddy, are on the Spanish River which flows into Georgian Bay, and operate on 25 cycles. The two others, operating on 60 cycles, are at Nairn and Wabageshik, the former on the



Blasted out of solid rock at the end of Big Eddy Dam is the grave where this French-Canadian lumberjack, killed in a log jam on the Spanish back before 1904, sleeps the last long sleep.

Spanish River and the latter on the Vermilion. All are south-west of Copper Cliff, within a 30-mile radius. In this article Triangle covers the High Falls and Big Eddy setup.

Pioneers of the North were Joe and Bill Errington, who operated a sawmill at Turbine and handled the logs which came down the Spanish. They found time for hunting, and through sport came into contact with officials of the Canadian Copper Company of Copper Cliff, whom they impressed with their conviction that there was a great opportunity for the development of water power at High Falls, on the Spanish.

## KEPT DAILY DIARY

Fuel costs were comparatively high for the Copper Company operations, so the officials were eager to investigate these hydro possibilities, and after Demorest and Stull of Sudbury had conducted a preliminary survey, the Montreal engineering firm of Ross and Holgate were called in, plans approved, and construction of No. 1 High Falls plant started on June 1, 1904. George Revell, the Ross and Holgate construction superintendent, started a diary the day he arrived, and its daily entries have been made faithfully since Nov. 1, 1905 by George Hartman, the plants superintendent since that time.

Surveyors originally went in to High Falls through the bush from Nairn, crossing the Spanish twice in the trek, but one of the first construction moves was to build four miles of standard gauge track in from Turbine, and up until last summer this track and its flanged-wheel jitney were High Falls' sole transportation link with the outside world. At midsummer of last year, however, a road had finally been carved through the bush to the little settlement.

## "HOT STOVE LEAGUE"

Clubhouse when the construction job was fully underway in 1905 was a long tarpapered shack, and around its cozy big fireplace in the evenings were often gathered men from many countries, summoned by progress to a lonely spot in the Northern Ontario forest. There was Wheeler from Mexico, rheumatic and sarcastic. There was Poole from England, with his Cockney

accent and his humorous songs. There was Dr. McCauley, up from Copper Cliff with a thrilling hunting story, and there was the whimsical young E. A. Collins, the Copper Company's office manager on the job. Prominent too was Dr. Anderson who, after many futile attempts, finally succeeded in shooting a deer. The spot where he brought down his quarry, within ten minutes' walk of the town, is still called the Doctor's Farm because Anderson's companions ironically maintained that any deer he could shoot must have been as tame as a domestic animal and was probably either a cow or a horse at heart.

An island in the Spanish, the High Falls site was a "natural" from the hydro-power development point of view. Two dams had to be built, of course, one on either side of the island. Then a channel was blasted out of the high rock hill between them and the river raced down through the boiler-plate penstocks to the power plant which had by then been constructed.

## STARTED NOV. 30, 1905

The No. 1 plant was laid out with room for four generating units of 2000 k.w. each, although only two were installed at the start. Leaving space for an extra two seemed at the time to be generous provision for future development. The switch was thrown in officially on Nov. 30, 1905, the initial output being used to operate a crane at Copper Cliff, to which the high tension line had been built. It was the end of 1908 before the Copper Cliff demand had reached the full capacity of one unit, but from then on the curve climbed steadily, and in 1913 the fourth unit was necessary.

The No. 2 High Falls plant was ready for operation in September of 1917. For some time prior to that, serious consideration had been given the problem of water storage, a low-water condition in the river having at certain periods threatened the supply of power. The chief reason for this was that many small lakes at the headwaters of the Spanish, about 100 miles up the river from High Falls, had been dammed by enterprising lumbermen with wooden cribs filled with rock. So a working arrangement was secured by the Company for manipulation of these dams to regulate the water supply. There are 24 of them in all, six having since been added by the company, and they control nine or 10 key lakes, included among which are Onaping, Mississagua, Biscotasing, and Mozobong.

## REGULATES DAMS

At the little town of Bisco, on the main line of the C.P.R., where there is a Hudson Bay Trading post and the Indians still come in to get their treaty money, lives the man who regulates the system of dams for the company. His longest trip is to No. 23 Dam



Nestled at the base of a 300-ft. mountain on the banks of the Spanish River, the town of High Falls looks more like a slumbering New England village than a nerve-centre of Northern Ontario industry.



This was the wonderful one-hoss shay which navigated over the four-mile standard-gauge railway from Turbine into High Falls in the early days. Now a smart little flanged-wheel motor car makes the jaunt.





One of those snaps you send to your friends with "Wish you were here" scrawled sprightly across the back. The scene is near High Falls. We have another shot showing nine fine young buck hung by their heels at a hunting camp, in the same locality, but dare not print it for fear Supt. George Hartman and his crew would be swamped by visitors.

on Canoe Lake, a water journey of 30 miles.

To supplement this system of water storage the company in 1918 commenced construction of Big Eddy dam, half a mile up the Spanish from High Falls. It was completed in 1920, and at the time was the greatest dam in Canada, 1175 ft. long, with a maximum height of 146 ft. Into it were poured 88,000 cubic yards of concrete, and it was equipped with 18 sluices 17 ft. long by eight ft. high, with one log sluice eight ft. wide. It was built between rock bluffs, with a rock foundation throughout. Its name came from a large eddy or bay in the Spanish at that point, christened Big Eddy by the lumbermen. It created a lake 25 miles long, absorbing a total of six rapids and falls including the Little and Big Jocko, the Little and Big Macdonald, and Island Falls.

#### DOUBLE DUTY WATER

An interesting history of INCO's operations, and those of the Canadian Copper Company before it, is written into the chart of the power curve at High Falls. By 1928 the intensive research and development program initiated by the Company was bearing fruit in new and wider markets, operations were enlarging, and more power was needed. Then the Big Eddy plant, a model layout just below Big Eddy dam, was constructed. Waters of the Spanish tumble through its penstocks, turn the big turbines, and then pass on down to do double duty by serving the two High Falls plants. The power load is divided between Big Eddy and High Falls, so that no water is spilled at the latter. Thus, carefully planned and operated at the peak of efficiency, the Huronian system harnesses the "white horses" of the Spanish.

Although it commenced to lag shortly after the Copper Company appeared on the scene, the lumbering industry was a prosperous one in the High Falls area for many years. Where High Falls town is now located was once a beautiful pine grove, judging by the big stumps which later had to be pulled out for the townsite. There are three townships in the locality, and many are the tales of fortunes reaped from their forest wealth.

#### SEQUESTERED SPOT

Picturesque little High Falls, with its 18 comfortable homes, nestles at the base of a 300-ft. mountain of solid rock. Tall Lombardy poplars line its street, and the waters of the Spanish curve broadly around it.

Winter or summer it's a beautiful spot, quiet, sequestered. Night and day the throbbing whine of its turbines is its only connection with the hoists and cranes and roaring compressed-air lines it helps to operate at Copper Cliff, 30 miles away.

## Special Prize For Final Night

Besides sitting in on a show that will produce some of the best amateur talent in the district, those who attend INCO Amateur Nights final contest in Stanley Stadium on August 30 will also have a chance of winning a beautiful \$70.00 General Electric all-wave mantle radio which has been donated for the occasion by Cochrane-Dunlop Hardware of Copper Cliff.

The six regular programs in the Amateur Nights series are presented to the public free of charge. Tickets to the final contest, including a chance on the radio, are 25 cents each, and the proceeds go toward the expense of sending the nine best numbers to the Canadian National Exhibition at Toronto.

#### LARGE CROWDS ATTEND

Crowds of from 1500 to 2000 are turning out to this season's series, indicating that the feature has lost none of its popularity. All contests are being held in the refrigerated atmosphere of Stanley Stadium, through the generosity of INCO General Athletic Committee, sponsors of the 1937 series. Also through the kindness of the Committee, the Coniston Band under Maestro Dan Totino is engaged for the entire seven programs.

With Garson, Levack, Refinery, Frood, Creighton, Copper Cliff, and Coniston all producing excellent talent, the series is providing splendid entertainment. Community singing is once again under the capable direction of the perennially popular



The lumbering industry was at its peak when Canadian Copper Co. engineers went in to High Falls to commence the hydro power development there. Here is a log jam on the Spanish in 1908, looking toward the big eddy or bay from which the Big Eddy development got its name. Now the waters which bore the wood tumble down penstocks to turn giant turbines and make kilowatts.

Johnny Davidson of Creighton, Jack Cole is official accompanist, Stu Macfarlane is handling the loud speaker arrangements, and Don Dunbar is master of ceremonies.

#### GIVE WEEKLY PRIZES

The contests are held each Monday evening, and \$10.00 in credit coupons is distributed to three winners each night through the co-operation of these Copper Cliff stores: Wilson's Pharmacy, Clark's Meat Market, Racicot-Darrach, Planosi Meat Market, J. J. Franssi, Robert Brown Limited, and Cochrane-Dunlop Hardware. Applause of the audience decides the winners, all of whom will compete in the finals for the grand prize.

## Creighton Welfare Stages Dance, Frolic

**Creighton:**—With a total now of about 750 members, the Welfare Association is occupying a leading place in community activities.

Officers are: President, Don Vicary; vice-president, Wilf Leck; secretary, Vic Trembley; treasurer, Hughie Simpson; directors, Tom Starkey, Sid Seymour, Alf Emblen.

The Association's permanent athletic committee has been set up as follows: chairman, B. F. Crandall; members, Tom Starkey, Ernie Mosher, "Doodle" McDonald, Vic Trembley, Bill Salio, Walter Stanio, Andy Petrisko, Carlo Strukoski.

This committee was in charge of the very successful Dance and Frolic which survived strenuous opposition from the weatherman and cleaned up a pretty penny toward wiping old athletic liabilities off the books. Rain drenched the first night's show on July 23, so the various games of skill and chance, the dance, and the draw for a refrigerator, radio, shotgun, and tea set were staged in the Community Hall the night of July 26. A capacity crowd turned out to give the Association every encouragement toward making the event an annual affair.

**Frood:**—On July 9 an enthusiastic track meet was staged by Frood Mine Welfare Association at Voima Park, corner of Dell and Stedman Sts., Sudbury.

The meet took the form of a pentathlon, with the added attraction of a 1500-metre run. Bill Neva and Wally Bain battled this out, with Neva winning in the remarkably good time of four min., 17.5 sec.

In the pentathlon, which requires that every competitor must enter all the events, G. Wala came out on top with V. Aho, R. Mannila, E. Possi, and H. Hoskela closely following in the order named. E. Sandbloom and L. Mannila also entered, but did not complete the events. Prizes were donated by Sudbury merchants.

## Coniston Welfare Committee Elected

**Coniston:**—The new committee of the Welfare Association, elected for the coming year, is as follows:

President, J. Langlois; vice-president, W. Burns; secretary-treasurer, F. Aggiss; executive members, W. Evershed, W. Walker, A. Dubery, L. Gauthier, A. McLean, G. Bloemmin, M. Blake, W. Nahniok, E. Albert.

The committee has arranged with two stores to give Welfare Association members a reduction on certain goods bought for cash.

Another popular move has been the committee's arrangement for milk to be on sale at the plant for all employees.

# MINING

## Past and Present

Fourth of a Series of Articles By  
K. V. Lindell, Copper Cliff

In order to maintain a continuity in our description of mining in Agricola's time, we will digress for the moment from the details of methods at Frood Mine and carry on with Agricola and the practices away back in the 16th century.

We have described for you the practices of the ancients up to the point where the ore was ready to be hoisted to the surface. Now referring to the woodcut from Agricola's "De Re Metallica" we can see one of the wheelbarrows used to carry the ore underground to the shaft, where it was dumped into the bucket and hoisted by the windlass to the surface.

### "HAULING" MACHINES

But let Agricola describe hoisting for you—"Hauling machines are of various and diverse forms, some of them being made with great skill, and if I am not mistaken, they were unknown to the ancients. They have been invented in order that water may be drawn from the depths of the earth to which no tunnels reach, and also the excavated material from shafts which are likewise not connected with a tunnel, or if so, only with very long ones." Then further, after describing the windlass construction in detail, he continues—"Two robust men turn the windlass, each having a wheelbarrow near him, into which he unloads the bucket which is drawn up nearest him; two buckets generally fill a wheelbarrow; therefore when four buckets have been drawn up, each man runs his own wheelbarrow out of the shed

and empties it."—(When they drew up water they emptied it through a hopper into a trough through which it flowed away.)

### "COMIN' DOWN THE MOUNTAIN"

Having raised the broken ore to the surface—"the miners either carry, draw, or roll down the mountains the ore which is

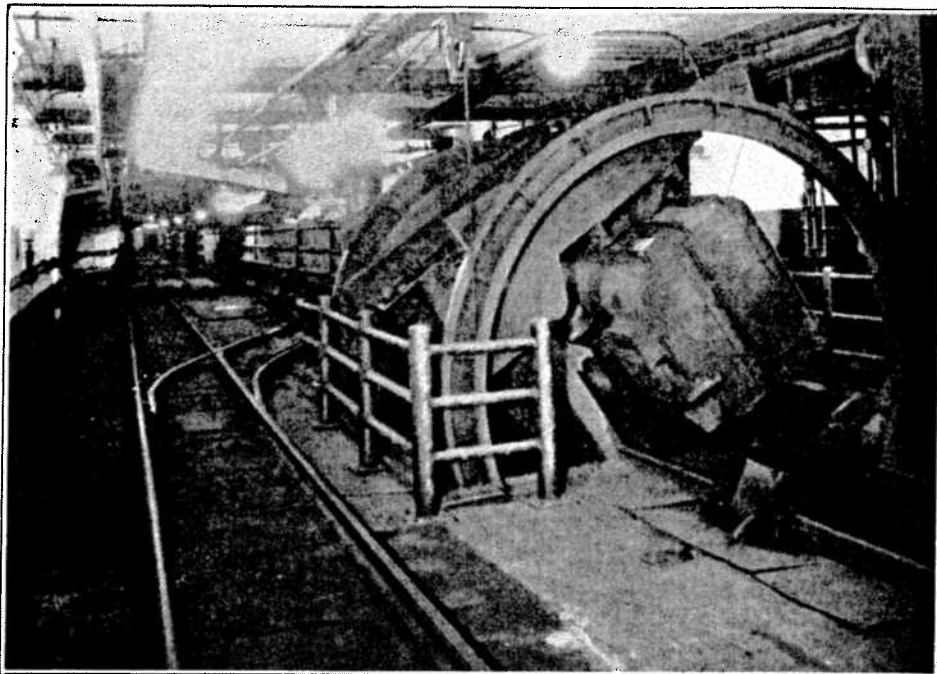
hauled out of the shafts . . . or taken out of the tunnels. In the winter time our people place a box on a sledge and draw it down the low mountains with a horse; and in this season they also fill sacks made of hide and load them on dogs, or place two or three of them on a small sledge which is higher in the fore part and lower at the back. Sitting on these sacks, not without risk of his life, the bold driver guides the sledge, as it rushes down the mountain into the valleys with a stick, which he carries in his hand; when it is rushing down too quickly he arrests it with a stick, or with the same stick brings it back to the track when it is turning aside from its proper course."

There are variations to this method described by Agricola, as depending on the terrain surrounding the shaft or tunnel the ore may be carried down in linen or pigskin sacks, or loaded on two or four-wheeled carts and drawn to the "washing and smelting plant" by horses. Here the "master of the works" marked on a stick the number of loads which had been brought by each driver.

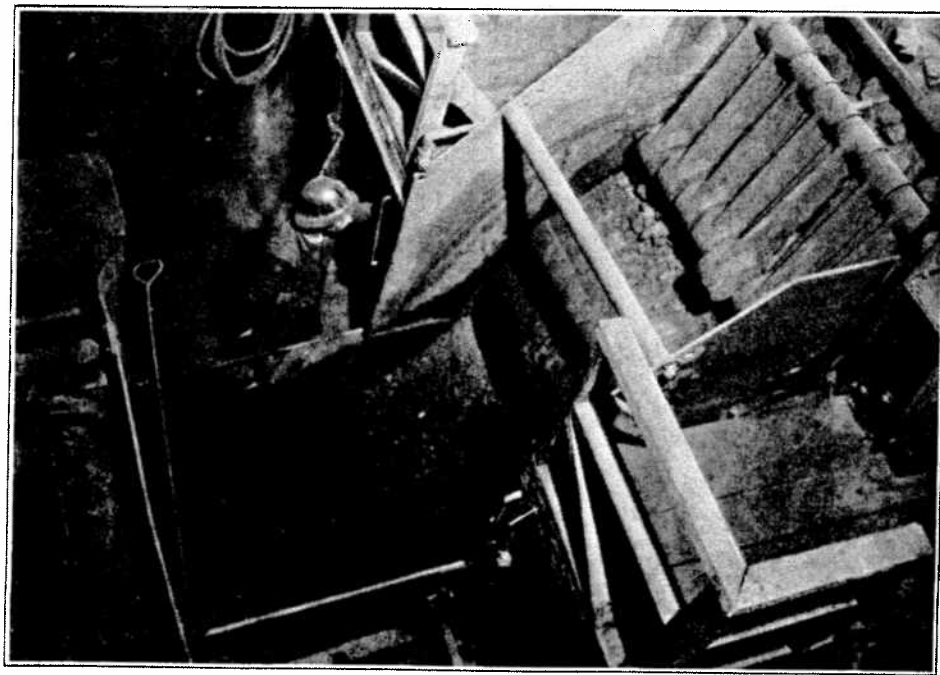
Agricola also describes some of the more intricate "winding machines," with variations in their motive power and design, turning the windlass by man or horse; some having the first known type of braking equipment on the windlass; others merely providing more leverage in order to raise a larger load than the simple windlass we have described for you. In spite of their primitive appearance they were, nevertheless, able to raise from three to 10 tons an hour with the buckets operating in balance—that is—one bucket "being drawn out of the shaft while an empty one is being sent down into it."

### THE ROTARY TIPPLE

Leaving Agricola and taking you back again to the Frood, we again note a sharp contrast in operations. Here the ore arrives at the shaft underground in a train consisting of 15 six-ton cars hauled by an electric trolley locomotive which deposits them at a car "tipple" or dump as may



This is where ore from Frood's 2800 level starts its journey up to surface. It arrives at this rotary tipple, or dump, in a train of 15 six-ton cars. Automatically the train is shunted on to the tipple car by car. When the car locks in position, the operator places the tipple in motion by opening an air valve. The ore is dumped into a bin above the crusher station, the car is swung back upright and shunted off the tipple, and another takes its place. The dumping operation requires approximately 15 seconds to a car.



Here's a gallery view of the crusher station on 2800 level at Frood. Ore from the rotary tipple and the main ore pass is fed from a bin by the roll feeder (at centre under the heavy bar) to the jaw crusher in the opening below, where it is crushed to a maximum diameter of eight inches. The crusherman, Phil Macarrato, watches that the crusher is operating to capacity by controlling the roll feeder with a stop-and-go button. He stands ready with his timber hook to pull out any pieces of scrap timber which may come down with the ore. The crushed ore then passes down to the loading pocket. The large swing hammers (top right) help to maintain an even flow of ore.

be seen in the accompanying photograph showing the rotary tippie on the 2800 level at No. 3 shaft. This tippie is capable of dumping four six-ton cars every minute and accomplishes it by inverting the entire car while it is coupled to the rest of the train. The entire mechanism is operated by air, both the dumping of the car and the moving of the train to spot the next car on the tippie. One man operating the air controls dumps the entire train car by car, while the trolley locomotive goes back to the orebody with a load of empties and returns with another loaded train.

The broken ore dumped from the car passes down into a bin from which it is fed to the crusher by means of a roller feeder. Ore from the levels above also arrives at this bin by means of an "ore pass raise," or opening approximately seven feet by 11 feet in cross section, which connects all levels at an incline of about 65 degrees. A gate at the top of the bin at the 2800 level controls the flow of ore from the ore pass raise. The roller feeder as seen in the photograph of the crusher station controls the flow of ore from the bin into the crusher, the jaws of which are seen immediately below the feeder. The ore is crushed to approximately five inches in thickness and then passes to an ore pass raise which extends down to a loading station at the shaft, approximately 160 feet below the 2800 level.

#### AT LOADING POCKET

At the loading station the ore runs through concrete and steel-lined chutes into measuring hoppers from which it then passes directly into the "skips" or hoisting buckets. The flow of ore from the chutes is controlled by a "guillotine" type of gate as may be seen in the picture of a loading station and consists of a large steel plate air-operated in vertical guides with a hole cut in the plate the size of the chute opening. To allow the ore to run, the plate is dropped until the plate opening coincides with the chute aperture, ore then flowing down a slide into the measuring hopper. To cut off the ore stream, the knife edge of the plate is easily drawn up through the stream stopping the flow. The measuring hopper holds the exact capacity of the skip, 11 tons, so that when the skip is lowered to a predetermined point below the measuring hopper, the ore is allowed to pass into the skip by merely turning an air valve operating a sliding gate at the bottom of the hopper, filling the skip in a matter of seconds ready for hoisting to the surface. This loading is done at the same time as the other skip is at the surface dumping into the ore bin at the top of the rockhouse.

At the present time the skips are making one trip each up and down the shaft in a little more than four minutes; the distance from the loading station to the dump in the headframe being somewhat over 3000 feet, or over a half a mile. A crew of three men, or "skiptenders" usually handles the loading of the skips, two men operating the controls on the chute and hopper gates while the third man checks the loading of the skip before giving the signal to hoist. The dumping at surface is automatic and requires no supervision, although signals are provided in order to stop the hoisting when the rockhouse bins are full. This might occur if any delay were caused in the normal rockhouse operations, due to breakdowns or other causes.

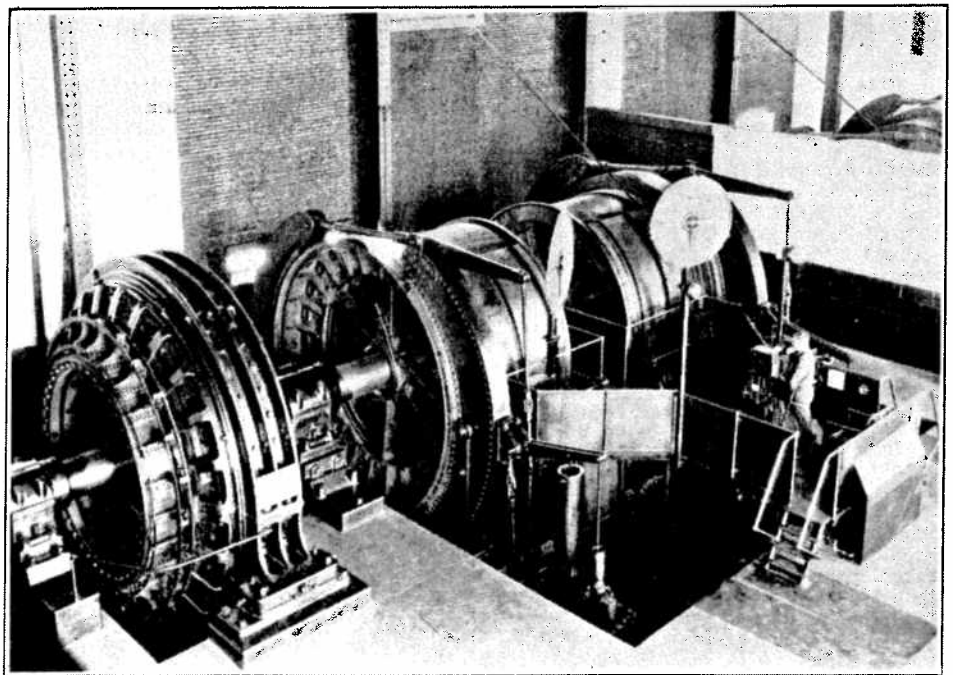
#### POWERFUL HOISTS

The hoisting of the skips is accomplished by a large electric hoisting machine which is a long step ahead of the windlass of Agricola's time; in fact it is a long step ahead of the steam hoisting machinery of but a few years ago. The hoist is controlled by one man and by various safety devices

(Continued on Next Page)

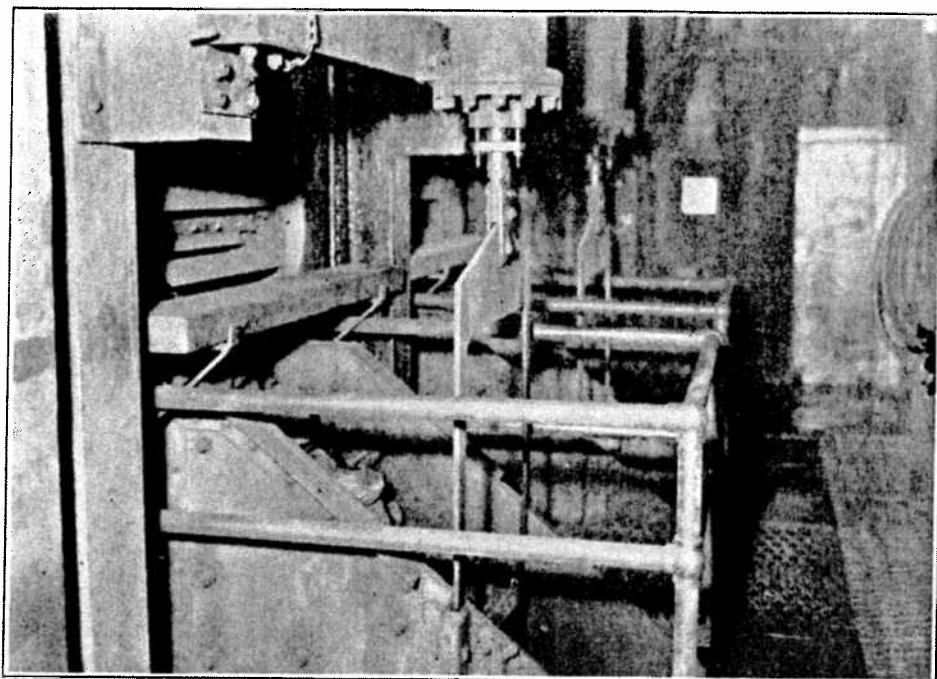


The first reaction of INCO employees familiar with the mighty hoists used in their Company's mining operations will be one of amusement at this wood-cut of how the ore was brought to surface in Agricola's time. Second thought, however, should be one of admiration for those pioneers back in the 16th century. A—timber placed in front of shaft. B—timber placed at back of shaft. C—pointed stakes. D—cross-timbers. E—posts or thick planks. F—iron sockets. G—barrel. H—ends of barrel. L—drawing-rope. M—its hook. N—bucket. O—bale of the bucket.



The ore hoist at No. 3 Shaft, Frood, a striking comparison to the primitive methods of Agricola's days. Twelve feet in diameter, the two big drums pay out the wire rope on which the skips are whisked up and down in the shaft from the 2800 level loading pocket at a speed of more than 30 miles per hour. A skip is attached to the cable from each drum, and the two operate in balance so that while one is in the loading pocket receiving its 11 tons of ore, the other is at the automatic dump at the top of the rockhouse on surface. Some 210 feet away from the shaft, J. M. McFarlane stands on his little platform and controls this heavy traffic. From the skip tender at the loading station he gets his bell signal that another skip is ready to hoist. He repeats the signal back to the skip tender, then releases the brake and sets his hoist in motion. The white arrows on the dials show him the location at all times of the skip coming up and the empty one returning from the skip dump. In his eight-hour shift he will hoist more than 2400 tons of ore. At his left is the big 3200 h.p. direct current motor which is his partner on the job.





A typical loading station underground at Frood, from which the skips receive their 11-ton loads. Ore comes down the pass from the crusher above and is fed into measuring hoppers under control of the gates clearly shown in the photo. The gate is in closed position, cutting off the flow of ore to the hopper. To resume the flow of ore, the gate, which is operated by the air cylinder immediately above it, is lowered and the ore passes through. When the measuring hopper has received its capacity of one skipload of ore, the gate is again closed.

which automatically go into action should the operator fail to do his duty.

The Frood No. 3 Shaft ore hoist has drums 12 feet in diameter, and a winding speed of 2700 feet per minute. The drums have spiral grooves for the rope, which is one and three quarter inches in diameter. The drums are operated by a large electric motor direct-connected to the drum shaft, the motor being rated at 3200 horsepower. The safety features of this hoist and general principles are similar to those at Creighton Mine No. 5 Shaft, which has been described in detail in an earlier issue of the Triangle.

Ore hoisting is but a part of the operations carried on in No. 3 Shaft at Frood. Agricola's shaft was about four feet by 10 feet in cross section with compartments for the buckets and a ladderway, whereas the Frood shaft is 30 feet by 18 feet in cross section and in addition to the two skip compartments it has four other compartments; two for the man and supply cages, one for the service cage and one for the pipe and ladderway, the importance of which we will discuss later.

In the next article we shall see how the handling of the ore from the mine to the "washing and smelting" plant was accomplished, past and present.

## Nine Teams in Cliff Softball Loop

**Copper Cliff:**—With Harold Gathercole as mentor, the Benefit Association's softball league is away to a flying start. Nine teams are entered, and the winning club of the schedule will take part in the playdowns for the new J. W. Gemmell trophy.

Teams are entered from Paint Shop, Machine Shop, Concentrator, Boiler Shop, Reverbs, Carpenter Shop, Converter Building, Bright's Beavers, Orford Building. Players taking part in the Nickel Belt or Royal Trading Leagues are not eligible.

## Electro Leading In Marriage Mart

**Port Colborne:**—The Electro Dept. is up to the present doing its utmost to earn a commanding lead in the matrimonial race and scored three times during the month of June.

### RIVERS—NEFF

Early in June Robert Rivers Jr., eldest son of Robert Rivers Sr. and Mrs. Rivers, was united in marriage to Ruby Neff, daughter of Mr. and Mrs. Ezra Neff of Humberstone. The wedding took place in the Central United Church in Port Colborne.

Following a reception after the wedding the young couple left on a wedding trip to Washington.

### GREEN—CURTIS

A popular wedding took place when Mary Elizabeth, daughter of Mr. and Mrs. P. J. Curtis, became the bride of Dennis Percival Green, son of Mr. and Mrs. J. P. Green, and one of the shining lights of our cathode box department.

A reception was held at the home of the bride's parents after which the bride and groom left on a trip through New York State.

### DAVIES—RICKARD

The wedding was solemnized of Margaret Henriette, eldest daughter of Dr. and Mrs. Howard B. Rickard, and Frederick Have-lock Davies, eldest son of Chief Constable Frederick Davies and Mrs. Davies of Port Colborne.

The groom has made a name for himself as quite an ardent athlete, especially as a boxer and wrestler; as well as making quite a showing in both of Jack Dempsey's White Hope tournaments, he is well known through his ability as a wrestler on both sides of the international boundary. In fact, he returned from his wedding trip just in time to take a leading role in a local wrestling show.

## CLIFF LAD CYCLE CHAMP

**Copper Cliff:**—Dan Kelly's bricklaying department builds muscles as well as roofs in reverbs and things like that. Young Vic Piancsi, who spends the summer months in Dan's clan and goes to North Bay College in the winter, has become such a husky gent that he is just about the best bicycle rider Northern Ontario has ever been able to boast.

### 18 ENTERED RACE

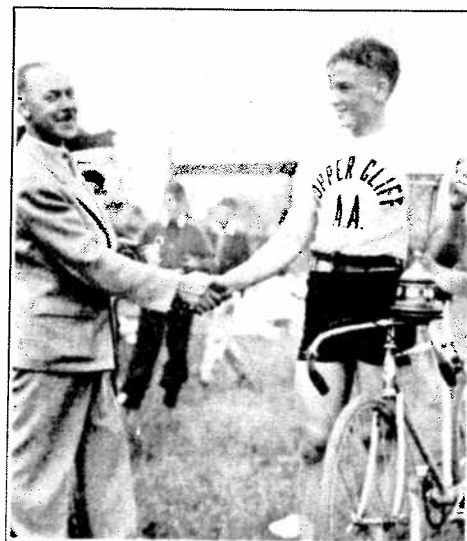
When he lined up with 18 other pedal-pushers for the North Bay Bicycle Club's annual road race on July 1st, he was making his second bid for honors in this cycling classic. With him was Fred Rinaldi, who swings a lusty hammer with Chick Ccchetto's carpenter crew. The two were sporting Copper Cliff Athletic Association sweaters, having entered the event under the auspices of that organization.

The race, a flat 18 miles from North Bay to Callander and back, is a real bicycling test.

Vic shot into the lead from the gun, was never headed, and zipped over the finishing line with a lead of a good 1200 yards. His time, 38 minutes and 30 seconds, or an average speed of almost 30 miles an hour, broke all records for the event, which has been a fixture for the past four years. The best previous time was that of Harper, of Toronto, who last year won in 44 minutes and 25 seconds, and who has since become a professional rider.

### RECEIVES TROPHY

Triangle's photo shows Vic just after the race, receiving the coveted White Bros.



trophy from Percy White. The latter is holding the small replica which becomes Vic's permanent possession.

Besides his muscle-building duties as set by Dan Kelly, Vic also follows a fairly strict training routine supervised by his brother Red. He doesn't smoke, seldom eats sweets, and reels off anywhere from 20 to 25 miles each evening on his bike after work. Days when he's not on the job, he burns up from 45 to 50 miles. He keeps his weight at about 180 pounds, and is pretty serious about this bike-riding game. If there's a Dominion championship meet this year, watch for Vic's name up there among the topnotchers.



# "Well Done, Tigers!" is What North Says to Frood

**Frood:**—In the hardest fought match ever seen in an Eastern Canada series, Frood Tigers went down fighting in their gallant bid for a berth in the finals of the Dominion Football Championships.

Northern Ontario representatives after their triumph over Dome Mines, the Tigers bowed low their heads to a smart Ulster United club from Toronto.

The semi-final matches at Oakwood Stadium in Toronto were scheduled as best two out of three, but Frood were confident they could take Ulster in their stride. They arrived in the Queen City heralded as the brightest blaze of soccer hope that has burned in the North in recent years. Beaten, they accepted defeat gracefully, proving themselves gentlemen and earning the acclaim of Toronto's soccer public.

## TOOK EARLY LEAD

In the first game Frood went into the lead on a goal scored by Jim Winning, but the tying tally came later for Ulster, scored by Johnny Aiken after a smart passing exhibition.

In the second game George Graham of Ulster kicked in the one and only goal, a shot from 25 yards out that gave Hallam no chance. Frood pressed mightily during the last 35 minutes, but Lady Luck did not have a smile for them.

In the third and deciding match it was obvious from the kick-off that Ulster, with a draw and a win out of the first two games, meant to play for a tie only. They went into the lead with Graham scoring, and then the defence was packed for the rest of the battle. Frood tried with everything they had, but Seymour in the Ulster nets rose to brilliant heights to turn them back. His stop from Murray's head just seconds before the final whistle was only one of his sensational saves. George "Pop" Simpson's goal, scored 20 minutes after the second half got underway, was all Tigers could squeeze past him.

Back home with a rousing "Well done, Frood Tigers" ringing in their ears and the satisfying knowledge that they had given Toronto its greatest soccer thrills in years, the Froodians found more time to appreciate some of the amusing highlights of their playdown campaign.

## ALEC AND HIS "DUG"

They are still smiling over the bewildered porter on their car back from Toronto, who looked high and low for a crying child but failed to spot the wee dog that Alec Gray was bringing back. Scotch Alec was more concerned over the comfort of his "dug" than getting any rest himself.

From their Dome trip they will long recall Andy Rayne's graceful snake dance, done in the privacy of the hotel with two towels draped about him. They quickly fastened the nickname "Wimpy" on Buster Campbell, not because Buster bears any resemblance to Popeye's hamburger-loving buddy, but because he contracted a sore throat which made it almost impossible for him to speak. He made such a funny noise, like a whimper, that the nickname was inevitable. Goalie Hallam's uncanny ability with the galloping dominoes was another highlight, as was Jim Winning's run with the pasteboards. Bill Young, walking into the hotel room the second night, asked Jim how the game was going. "Well," said James, "It's not so good. I'll soon be playing with my own money now."

## Softball Loops Booming at ORCO

**ORCO:**—Softball interest is at a fever heat now with the Nickel Belt team up near the top of the league, mainly due to the heavy hitting of Leo Fletcher and Home-Run Harry Haddow. Pitcher Hammond is leading the league at this writing with five straight wins.

The Plant League is booming right along with the Mechanical Department hoping to be in play-offs for the Gemmell Cup, but the Office-Lab. team also think that they will be the Refinery color-bearers. We forecast many a merry battle before the season ends, and, further, we forecast that whichever team represents ORCO, the Gemmell Cup will spend the winter on display in our plant.

## Camera Club Draws Members

Like the boy who hiked over hill and dale seeking the house with the golden windows and then turned to discover that there

were gilded panes in his own home just as bright as those he had seen in the distance, amateur camera artists often pass up splendid photographic studies right in their own backyard.

## MOSTLY INCO EMPLOYEES

Not so the members of the newly formed Sudbury Camera Club, however, a large percentage of whom are INCO employees. The spectacular beauty of Sudbury district scenery offers them a wide range of subjects.

Many of the new Camera Club's enthusiasts have taken up photography in earnest only during the past few months, yet their first exhibition, recently on display in a Sudbury store, had many fine examples of the art.

## NEW MEMBERS WELCOME

Officers of the Sudbury Camera Club are: president, G. M. Smith, Frood; vice president, Ross Lowe, Refinery; sec.-treas., Stu Robb, Copper Cliff. During the winter months meetings of the club were held every Wednesday evening, but these have been suspended for the summer. In the autumn the Club plans to stage competitions which, from all indications, should turn out to be a real display of the various angles of amateur photography. Anyone desiring to join the Club should get in touch with any of the executive.

## ORCO PARTIES

**ORCO:**—July 14 was a big night for a large number of copper refiners and their friends who journeyed to the Coronation Club for a real peppy and sociable dance. These ever popular affairs are a treat to chase away the cares and worries of the day. Another is planned for August 27th. Don't forget the date if you are looking for a night of fun and frivolity.



Garson Welfare Association's snappy orchestra, which scored such a hit with the crowd at the season's first INCO Amateur Contest and earned a place in the finals on August 30, presented the complete program at a smoker held in Garson, July 29. Standing on the stage, from left to right, the orchestra members are: Maestro Fred Desjardines, Pete Desjardines, Omere Daoust, Albert Mann, Eddie Desjardines, Murray McMaster, Walter Forbes (the lad who can play a violin in any position except under water), and Tony Veranda. Members of the Welfare Association executive in the foreground are: President A. Lye, Secretary Tommy Hamill, Bob McCauley and Sam Souch.

# NICKEL . . . AND ITS USES

## NICKEL-PLATING

A Tremendous Field in Industry Which Is Developing for Sudbury Nickel

If all the nickel used in Canada and the United States for electro-plating during the year 1936 were to be deposited at normal thickness on a single sheet of steel, it would cover an area of approximately 12,000 acres. This is a highly imaginative way of saying that the nickel plating industry looked at collectively, is not only a pretty big and important business but a not inconsiderable consumer of nickel. And when you had gotten that far, you would be told by the metallurgists who have made a life-long study of the electro-deposition of nickel, that the potentialities ahead of nickel plating are still tremendous since many new and promising fields appear to be opening up before it.

### AN ANCIENT ART

Coating one metal with another is an ancient art. Evidence exists that it was practiced by the Egyptians in 2500 B.C. The modern art of electro-plating dates back however, about a century. Michael Faraday in 1830 is credited with the discovery and formulation of the basic law of electrolysis upon which electro-plating is based. Present applications for nickel plating cover thousands of products in many industries. Among the principal fields in which nickel plating now finds its widest use are: automobile trim, electrical appliances, plumbing fixtures, general hardware, business machines, serving utensils and bicycles, volume of production being about in the order named. In the lowly bicycle—to take one example—no less than 20 different parts are nickel plated and in one factory alone, as many as 25,000 such parts are electro-plated in a day's operation.

An application of nickel plating which holds much promise and has been highly developed in Great Britain is the art of building up worn machinery parts by the electro-deposition of nickel. In the United States an interesting example may be found in the electro-plating of nickel on steel used in the manufacture of electric storage batteries of the alkaline type. Most noteworthy battery of this type is the Edison heavy duty storage battery widely used in all parts of the world for industrial purposes. A more recent development is the coating of steel sheets and strip with nickel, which can now be furnished in many standard sizes.

### 11,000,000 LBS. IN 1936

Nickel for electro-plating use accounts for about 15 per cent. of the total Canadian and United States consumption of nickel. Sales over the past five years have risen from more than 2,500,000 pounds in 1931 to almost 11,000,000 pounds in 1936. Nickel plating is carried on extensively throughout the world and its use is steadily increasing. In Canada and the United States alone, there are some 6,500 plating establishments.

No one has ever counted the innumerable objects that are treated with nickel or with chromium on nickel coatings, but their number certainly runs into the thousands. Yet this, say the metallurgists, is only a beginning for nickel plating, because its field of practical usefulness has been greatly widened in recent years by research and development responsible for a new conception of nickel coatings.

This has come about through the discovery of methods whereby the thickness of

the metal coating can be varied at will and, what is equally important, controlled within close limits. All this has changed the nickel plating business from something which was put on basic metals largely for its decorative effect, to a decidedly utilitarian industry rendering an important economic service to other industries by protecting metals from corrosion and wear in the same way that nickel alloys so protect many of the hidden parts in all kinds of machinery in which they are used. The great automobile plants today have not only multiplied the application of nickel and chromium on nickel coatings, but now deposit nickel that is almost ten times thicker than when this art was first introduced into the manufacture of cars.

### AN EXPENSIVE ENEMY

Developments in electro-plating over the past several years have particularly emphasized its importance as a protective factor and thus a new tool has become available in the everlasting war on corrosion.

One expert in this field recently estimated that corrosion of the ferrous metals alone—iron and steel—is taking place all over the globe at this moment at a rate which means a loss of \$10,000,000 per day. This colossal waste occurs without a moment's cessation in every country through-

cut the world. This same authority estimates that fully \$750,000,000 is spent annually in the task of fighting corrosion.

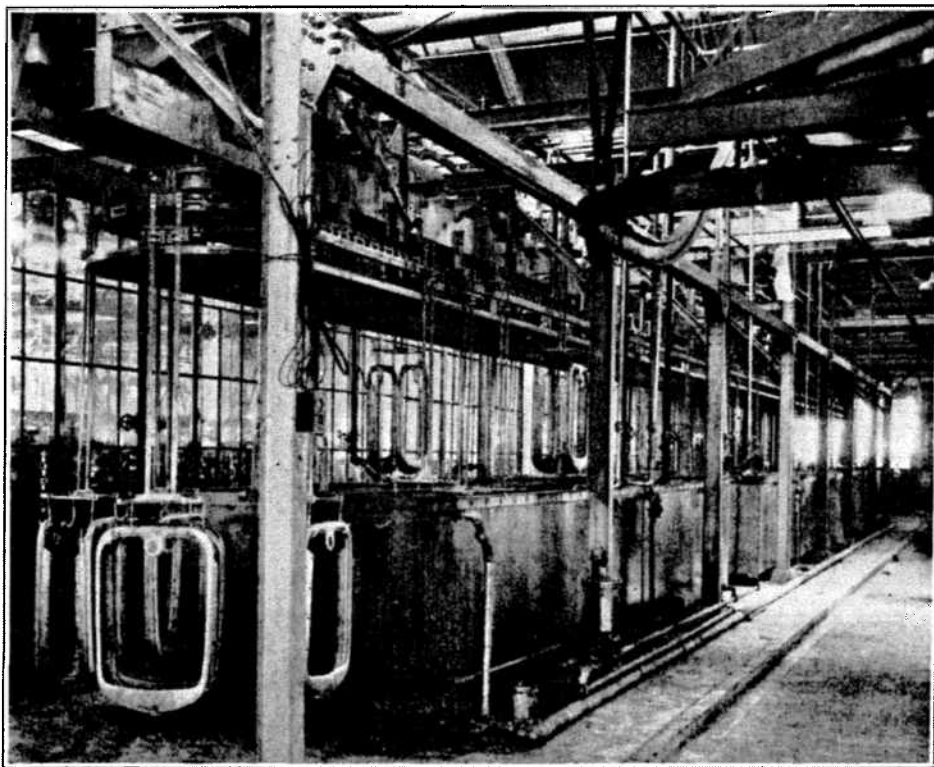
Recently—in fact no longer ago than last year—processes were perfected commercially to accomplish what is known as "bright plating" of nickel—a significant forward step which, for the first time, brings important economic savings into the picture of electro-plating. This process has, to a large extent, decreased the work of buffing and polishing in connection with the chromium finish that is applied over the nickel plated base metal.

Thus through technical development, electro-plating is keeping pace with the march of industry toward greater precision in production methods with consequent improvement in quality of products. Dependence upon individual skill and secret formulae, is giving way to organized manufacturing comparable to that which assures successful mass production in other branches of industry.

### REMARKABLE PROGRESS

Consider the high spots of electro-plating development and where the industry stands today. First, the new improved facility of producing a bright deposit to which brief mention has been made. Then, the production of soft deposits which are as ductile as the steel base. Next, the ability to plate at current densities as high as 300 amperes per square inch; and finally the production of deposits with a hardness greater than can be obtained by cold rolling and of a thickness some hundreds of thousands times greater than was thought practical but a comparatively short time ago.

A deposit as thin as two-hundred-thousandths of an inch will present a uniform appearance to the eye, and any thickness from this point up to heavy sheet mill gauges can be electro-deposited in proper



The lowly skillet comes out in a new dress of nickel plate, and the housewife's kitchen tasks are made easier. Bicycle parts pass through plating baths and pick up their corrosion-resisting coating of nickel, in one factory at the rate of 25,000 parts a day. On many important industrial fronts nickel plating is gaining new prestige, but it has long been recognized as a potent factor in the automobile industry. Photo shows a typical full automatic plating machine depositing nickel on automobile parts, now a mass production proposition.

baths. Modern deposit thickness varies widely from .0002 inches on brass, to the .001 inches usually specified for weather resistance of plated steel, or twice this thickness to withstand heavy corrosion. Platers are able to produce 250 times these thicknesses when required.

All of this adds new significance to the uses of nickel and a new and greater opportunity for service in the interests of industrial progress, for here is a metal whose properties vary in as wide a range and are almost as reproducible as those of cast or rolled nickel. In fact, nickel can now be deposited at will in a range of hardness from well above that of the hardest rolled metal to a softness somewhat above the fully annealed metal.

The largest use of nickel in the plating industry is in the form of anodes used in the plating bath. Nickel salts are also of importance in the electro-plating processes, being mixed with water and other ingredients in the plating bath.

Contrary to popular impression, the advent of chromium plating has distinctly advanced the use of nickel in plating, for beneath the chromium there is usually a thicker coating of nickel to protect the basic metal from corrosion and to assure adherence of the chromium finish.

#### ENJOYS NEW STATUS

Summing up the art of nickel plating, engineers who have been closely following its development feel that we are approaching, if we have not already reached, the point where nickel plating must be considered something more than a mere coating for other metals; that the fabricators, specifiers and the ultimate users of nickel plated materials will learn to choose the kind of nickel plating best suited to a given application; that nickel plating in short, will be thought of as having as wide a variety of properties and diversification of use as do nickel alloys.

## Railroad's Name Publicity for Nickel

Readers of the Triangle will be interested to learn of a railroad in the United States called the Nickel Plate Road whose name serves as a constant reminder to its thousands of passengers of the nickel products coming out of the smelters and refineries at Copper Cliff. Curiously enough, the origin and naming of this railroad coincided closely with the discovery of nickel in Canada.

Many persons are of the impression that nickel plating is in some peculiar way identified with the railroad. Although this is not the case, the road is in a sense a "living" advertisement of nickel plate and the story of how it got its name is of pertinent interest to this article.

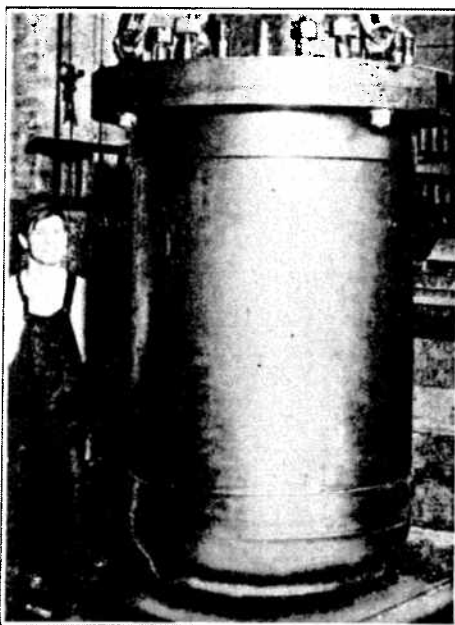
It was formed in 1881 as the New York, Chicago and St. Louis R.R. In writing of its glittering possibilities, the brilliant opportunities for new trade in the cities through which it was to pass and the gilt-edged nature of its financial backing, an Ohio newspaper referred to it as the Nickel Plate Road, and the name has stuck to it ever since. The Nickel Plate operates 1683 miles of track. The name Nickel Plate is used officially by the company in every department, as a trade mark.

#### A RAZOR DE LUXE

The Rolls razor, one of the best known British products sold in America, uses Monel for all metal parts—except the blade—of a de luxe model.



Modern nickel plating has turned out to be a great boon to the printing industry. The lead stereotype castings, from which larger newspapers are printed, are subjected to heavy wear in the long press runs demanded by today's mammoth circulations, and often blur. When they are coated with nickel they stand up almost indefinitely, one instance being reported of a run of 1,800,000 copies of a newspaper comic section being made from one set of nickel faced stereotype plates. Photo shows a stereotype placed in a nickel plating bath.



Nickel plating has come in for extensive use, particularly in England, to build up worn parts of important equipment. Photo shows a hydraulic cylinder upon which nickel has been electro-deposited for this purpose. To a thickness of 0.03 inches nickel was built up on its interior. The cylinder weighs nine and one-half tons.

## Creighton is On Top of Heap

If a dopester wanted to go out on the limb and take a chance, he might be pardoned for forecasting the results of the Nickel Belt Baseball league playdowns on the basis of the present standing of the teams.

Barney Barnett's Creighton club are well out in front and look like potential winners. Frood stand second at this writing, three games behind. Another two games back are Coniston, and still another two games back are Copper Cliff. Sudbury languish in the basement.

Thus to name Creighton as probable league champs shouldn't be such a miscue. Except that baseball results are about as easy to predict as love affairs and horse races. You never know what's going to happen. At the Canadian Legion field day on August 2, the fourth-spot Copper Cliffians, marshalled to the fray by determined Tom Strong, administered a convincing 7-4 defeat to the loop-leading Creighton crew and looked like a million dollars doing it. So what have you?

Anyhow, there's some smart baseball being played in these parts this season, and when the playoffs come up at the end of this month the fans can look for plenty of excitement.

Babe Marchildon's blinding speed and swooping curve ball, and Bill Tennant's vast improvement in control over his last year performances, are the standout in Creighton's bid for Nickel Belt supremacy. If Barnett's men cop the laurels, it will be on the edge they hold over the other clubs in chucking talent.

#### FROOD'S POWERHOUSE

Ole Bill Fine of Frood, in his Southern drawl, allows that he's got a pretty sweet infield. Actually, many observers call Bill's infield the class of the league, and look for his club to repeat its 1936 championship showing.

When Coniston lost Kerrigan, whose hurling had carried them on a long winning streak, their aspirations suffered a heavy blow, but Bill Ralph has come to the rescue nobly, and at this writing has two wins out of two starts to his credit. The Coniston fighting spirit is a factor no arm-chair prophet may overlook, either.

As for Copper Cliff, still with a mathematical chance of making the playdowns, the comeback of Pitcher Bruno Taus is the big feature at present. In three games Bruno has been touched for only four runs, and is teaming nicely with Herb Dupuis, the peppery little Cliff receiver to whom many give the nod as the best catcher in the loop.

#### STANDS THE TENSION

The makers of automatic fire control sprinkler systems are now using Inconel strip as disc springs in sprinkler heads. These springs are under tension for their entire life—in most cases, over 40 years. Inconel is not corroded by industrial fumes, and maintains its spring properties indefinitely.

#### MONEL "IN THE DOUGH"

Now the "Doughway." But it has nothing to do with banknotes. It's a chute to carry dough from the mixers on one floor in a large bakery to the ovens on the floor below. It's made of Monel because it must resist the corrosive effect of the wet dough and must be easy to keep clean, smooth and sanitary.



# Start Sinking of New 2000-Foot Levack Shaft

Approximately 200 men are now engaged in sinking operations which have commenced on a 2,000-foot vertical shaft at INCO's Levack mine.

Vice President Donald MacAskill's statement on June 30, announcing this major development, was as follows:

"The International Nickel Company of Canada Limited is proceeding immediately to sink a new vertical shaft at Levack mine. The new shaft will be located about 1,200 feet west of the incline shaft. The shaft will be sunk to 2,000 feet and will be of the same dimensions as the new No. 5 shaft at Creighton mine. This shaft will provide additional capacity, furnish desired ventilation conditions, and will be accompanied by a modern hoisting plant, an up-to-date changehouse and other necessary plant buildings.

"It is estimated that this will approximate an expenditure of \$2,500,000."

**30 x 18½ FT. OUTSIDE**

The dimensions of the No. 5 shaft at Creighton mine, completed last August, after 19 months sinking, are 30 x 18½ feet outside the timbers. It is twice the projected depth of the Levack shaft, however, being bottomed at 4,075 feet. The Creighton shaft is of six compartments—two for ore hoisting, two for men and material, one used as manway and pipeway and one for ventilation.

After having been suspended since 1931 due to the decrease in world demand for metals, operations at the Levack mine were resumed by International Nickel last March 15. With the steadily increasing demand for both nickel and copper, management of INCO decided to bring the property again into production in order to relieve the pressure upon the company's other plants. During the period of inactivity the underground workings had been maintained in good condition, and with the rehabilitation of the railway spur into the property production was quickly resumed last spring. As the ore at Levack grades about three parts nickel to one part copper, enlarged operations will permit the company to more completely balance its metal output and fill the needs of the growing demand for nickel in industry.

At the present time Levack is contributing about 30,000 tons monthly to the aggregate mine production of International Nickel. Part of the ore has been going to the Copper Cliff concentrator and the balance to Coniston smelter. There are approximately 275 men employed at the property.

## Snappy Program For ORCO Picnic

**ORCO:** — The Security Association are planning a Plant picnic on August 8th and are looking forward to a real day of sports and promotion of good will amongst the employees of the plant.

Several softball games are planned along with a tug of war, races for young and old, water sports and "Hoss-Shoe tossing." A real day is planned and we are hoping for a very generous supply of sunshine from "Old Sol" to make this an enjoyable outing for the employees of the plant and their families.

## ENGINEERS HELD PICNIC

Threatening skies suddenly brightened to send sunshine smiling down on the second annual picnic of the Mining Engineering Dept., held at Long Lake, July 17, and that auspicious event was once again a big success.

The stand-out event on the program was generally conceded to be the Miners' Derby, in which frisky fillies thundered over Long Lake Downs at breakneck speed. The horses, rich-blooded Indian ponies from the Naughton Reserve generously loaned for the occasion by the Chief Minnyteehee stables, were kept hidden from their riders until the starting signal was given, and the four jockeys were led blindfolded to the starting post. When the bandages were whipped from their eyes and they beheld their mounts, bewilderment was registered.

### BLUENOSE THE VICTOR

Jockey Stu Robb of Copper Cliff quickly recovered from his surprise, was up on Bluenose in a twinkling, and galloped away to a decisive win. Jockey Gerry Smith of Frood piloted Prairie Rose under the wire for second money, and Jockey Nick Trefiak of Creighton brought Pay Dirt in for show. Cactus Mack, the vicious animal assigned to Jockey John McNeil, proved too much for his rider, who came close to being badly thrown.

Music for the rodeo-picnic was supplied by the Royal Hawaiian Band, a startling group of artists which, although few in numbers, played with such fervor and novel harmonic arrangements as to make conversation well nigh impossible. Triangle's candid camera caught them in the midst of their smash hit, "Ode to the Camel," better known in engineering parlance as "How Dry I Am." On the left is Fred "Tasch" Moris-



sette of Frood; centre is Ig Nelson, and right is Art Silver, both well-known figures in Creighton musical circles. The young oompah artist in the foreground was a guest artist.

### MANY BEAUTIES

No less than 40 charming ladies entered the beauty contest, presenting a most difficult problem to the judges, Ross, Burford, McNab, and Baker. Those hard-pressed



**Winner of the Miners' Derby at Long Lake Downs on July 17, Bluenose is shown here, not even puffing after the gruelling race. Jockey Stu Robb of Copper Cliff is up, and wealthy horseman John Missler of Creighton is looking the nag over with a view to purchase. On the right, Mel Dundas is assisting Jockey John Trefiak of Creighton to dismount after bringing Pay Dirt under the wire in third place.**

gentlemen finally awarded the title of Queen of the Picnic to Miss Mary Whalen.

Mrs. Ig Nelson carried off the honors among the more experienced rolling pin wielders, while Mrs. Carl Heidman's technique in handling that famous weapon was adjudged outstanding among the blushing brides. Messrs. Nelson and Heidman witnessed this contest with troubled eyes.

Six teams entered the canoe-tilting competition, in which the Garson entry was best, and a great variety of ball players took part in the Frood vs. All-Stars softball exhibition. All-Stars won by an unofficial count of 18-2, the game coming to a sudden finish when Home Run O'Connell of Frood broke the bat. Various racing events were run off for the kiddies.

Master-minding the affair was the old arch-conspirator himself, George Holmes. About 150 attended.

## Baker Cup Race Keen One at Frood

**Frood:**—A snappy softball league is underway at Frood with all levels, both shifts, surface, and 12-8 shift participating. Interest is running at a high pitch with some excellent form being shown by the various teams.

The boys are really burning up the grass, so to speak, and everybody is expecting plenty of keen competition when the Baker Cup playdowns roll around. Grant Baker himself is in charge of 2800 on one shift, and Tommy Chenier of the Welfare is handling the team on the opposite shift. Ray Van Hamme has gathered together a strong club on 2600 South. Gordon French and Howie Maitland are looking after the two clubs on 3100. Frank Swartz takes care of 2200, and Ted Dandy is master-minding 2000.

The winning team in the league will represent Frood in the Gemmell Cup playdowns.

A large tobacco company recently experienced difficulty with cigarette folder blades made of tool steel. They rarely lasted more than 9 weeks. Blades made from "Ni-Hard," a chilled nickel cast iron, were substituted. These gave a service life of 23 months—10 times longer.

# CAMERA CATCHES STEPS IN SWITCH-TAGGING PROCEDURE

"Employees must never work on any electrically operated equipment which has been stopped for any purpose whatever without first seeing that the main switch is opened and properly tagged."

"Under no condition should any workman depend for protection on a tagged starter button or controller. Always tag the main switch."

"After the main switch has been opened and tagged, the controller or starter button must be tried to make sure the machine will not start."

"Any individual employee, or the leader or responsible member of any gang, before starting to work on a machine which has already been tagged, must place or have placed on the switch an additional tag bearing his name."

"No person should at any time close a switch until all tags have been removed by the parties whose names appear on them."

## FOR ALL DEPARTMENTS

So read excerpts from the INCO smelter rules regarding the tagging of all switches. Designed to eliminate the hazard of working on power-driven equipment, these regulations are effective throughout all departments.

To illustrate how effectively they protect the employee, the cameraman has followed Bill Adams of the concentrator through the tagging procedure.

Assigned to remove from one of the concentrator's 16 big rod mills some of the small rods which have been worn down by the constant grinding and tumbling they undergo in the mill's steel-lined interior, Bill first presses the button to summon one

when an electrician is not present. Nobody other than an electrician may enter a control room.

Stuart Ferguson is the electrician who answers the call, and he and Bill proceed to the control room. In the log book Bill writes his name and the number of the



machine he wants stopped. When Stuart has checked the log entry, he will then open the switch and hang Bill's tag on it. The switch will not be closed until Bill has had his tag removed.

Bill is given a small metal blackboard, on which is printed "Switch Pulled. My tag in place," with room for Bill's signature. Then he goes back to his machine, and before he commences any work on it, he tries



the starter button to make absolutely certain the circuit is open.

## GOES AHEAD WITH JOB

Satisfied that the mill circuit is open, Bill signs the metal blackboard and hangs it in a prominent position on the machine. This done, he swings open the door of the rod mill, enters and removes the small rods he is after.

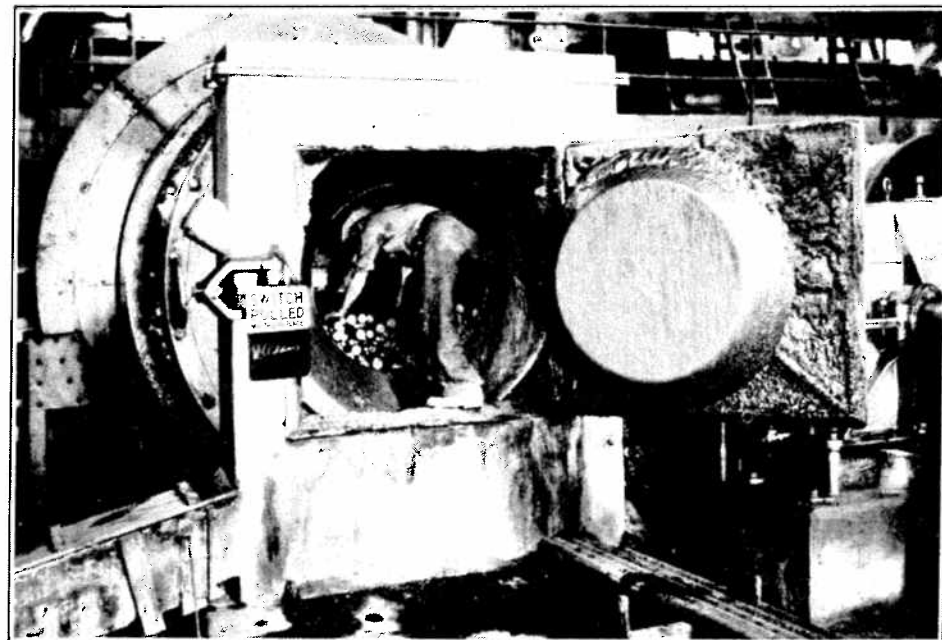
When his job is done Bill will again call an electrician and they will return to the control room where Bill will return the blackboard and sign the log to the effect that he has completed his task. Then the electrician will remove Bill's tag and close the switch so Bill may start the machine again.



of the plant electricians. The rod mill main switches are located in one of the control rooms, which is kept locked at all times

## POPULAR DANCES

**Levack:**—Dances are held in the Community Hall every Thursday night at which good crowds are attending, coming from Cartier, Chelmsford and as far away as Sudbury. These dances are sponsored week about by The Athletic Association and The Welfare Association. Although the weather has been warm, it is sufficiently cool in the evenings and the enjoyment is very keen at these popular affairs. Music is supplied by The Levack Orchestra who are always willing to provide melody anytime.



## TOUGH LITTLE ENGINE

The smallest American Diesel engine has been developed by the Witte Engine Works, Kansas City, Mo. It is a one-cylinder unit and develops 3 horsepower at 1200 RPM. A long-wearing alloy cast iron containing 1½ per cent nickel is used for such parts as frame, cylinder, piston and head. Engineers estimate that the engine will run 40,000 hours before honing of the bore will be required.

## STOPS DANCING WIRES

A large Canadian utility company recently installed vibration eliminators on long spans of power lines crossing rivers. Their purpose is to keep the wires from "dancing" and touching. After a test of various materials, Monel was used for the ball joints of these units because of its corrosion resistance and wear resistance and its ability to retain its high strength at low temperatures.

# PUNCHING OUT

with

## JOE the DRY MAN



¶ You can't get anything past these fellows in the time office. The last issue of The Triangle was scarcely "on the street" with the first appearance of my column when I had a phone call from "Rich" Richmond, of the Copper Cliff time office. "Hey, Joe," says "Rich," "how come that fellow in the sketch at the top of your new column is only just punching out when the clock shows half past one." Imagine the guy picking up a little thing like that! After some humming and hawing I finally convinced him that the pal I am chatting with in the sketch really started to punch out at 12.00, but he got so interested in what I was telling him that it was one-thirty before he knew it.

\* \* \* \*

¶ Several members of the Copper Cliff Skating Club turned in very artistic scrap books for the competition inaugurated by S. S. MacFarlane. Mr. and Mrs. J. O. McCarthy of North Bay, whose young daughters are very popular figure-skating performers with Stanley Stadium audiences, were judges of the competition. They awarded the prizes to: first, Mrs. Bilbie, Copper Cliff; second, Mrs. A. E. O'Brien, Frood; third, Miss Lillian Steven, Copper Cliff.

\* \* \* \*

¶ Eldred Dickie, the hustling young secretary of the Frood Welfare Association, was proudly exhibiting a very snappy cigarette-case-and-lighter set presented to him by the Slavonian Society in appreciation of the assistance he gave them in getting their organization underway.



The fishing gossip from ORCO indicates that most of the boys there are spending their leisure time in pursuit of the finny tribe. One of the livelier anecdotes concerns Russ Bryce of the plate shop and a large catfish which managed to fasten one of its spikes in his shoulder. That's what happens when a fisherman plays them with a springy rod. All hats were doffed, though, to Dan McTaggart, who took a little jaunt to Lake Penage and hauled out a 17½ pound lake trout. Here he is, with the prize. One fish like that and we would be quite content to rest on our laurels for the remainder of the season.

¶ To think of lawn bowling is to think of "Doc" Chalmers, one of its most ardent enthusiasts, who is the trusty First Aid officer and timekeeper at Port Colborne. Recently a lawn bowling team from South Africa was billed to play in Niagara Falls. This was an event "Doc" could not miss, so at the invitation of a cousin on the visiting team (whom he had not seen for many years) "Doc" hid himself to Niagara Falls. Unfortunately rain soaked the bowling greens, forcing cancellation of the match, and it is thought that some of the players also got wet, because next day "Doc" was complaining to Dearing that the payroll sheets were sticky and would not turn as usual.

\* \* \* \*

¶ Windy Lake Beach and the ole swimmin' hole in the Onaping River are getting a big play from Levack people these days. The swimming hole has been fixed up with a diving board, and some fancy performers are seen in action.

\* \* \* \*

¶ My ORCO operative tells me that Al Tupling was just a little sleepy the night he got on the train at Bala, and consequently woke up in Toronto instead of Sudbury. Also that it was not a sea serpent that barked at Dave McDonald in the Wahnapiatae River, as first reported, but just a playful little otter.

\* \* \* \*

¶ These offers otter be more thoughtful.

\* \* \* \*

¶ "Never out and never over,—going on all the time!" That good old standby of circus barkers can also be applied to corrosion, deadly enemy of iron and steel. In the article in this issue on "Nickel and Its Uses," it is stated that corrosion of these two metals alone is taking place all over the globe at this moment at a rate which means a loss of \$10,000,000 per day. Diligent research has established the fact that nickel is one of the strongest weapons with which to fight this colossal waste, and consequently a tremendous field is opening before nickel-plating.

\* \* \* \*

¶ Earl Stoneman, Copper Cliff concentrator, likes his sweets, and makes no bones about it. When he sits down at noon to explore the mysteries of his lunch pail, he always digs for his dessert first because, as he explains it, he might not have room for it after eating the rest. One of the boys two weeks ago got a chance to slip a note into Earl's lunch pail, addressed to the lady at his boarding house and reading, "Please don't put any pie, cake, or tarts in my lunch pail. I am very fond of onions, cheese, bread and butter, and also I like just ice water in my thermos." The look of acute dismay on Earl's face when he unwrapped his grub next day was too much for the conspirator, who confessed everything on the spot instead of waiting about a week as he had intended.

\* \* \* \*

¶ The boys in the lab. at ORCO made hi-de-ho at a snappy "stag" staged at Jack MacDougall's camp on Lake Ramsay, June 18, in honor of Bill Toleck, who was married on June 20, to Lillian Gardner.

\* \* \* \*

¶ It may not have been funny to the boys

back in Agricola's day, but in comparison with present-day mining methods some of the old-time tricks which Karl Lindell is describing in his series on "Mining, Past and Present" are certainly good for a laugh. In this issue's article Karl tells how the ancients brought their ore down from the mountain-tops. "They took sacks made of hide, filled them with ore, and placed two or three of them on a small sledge which was higher in the fore part and lower at the back. Sitting on these sacks, not without risk of his life, the bold driver guided the sledge with a stick as it rushed down the mountains into the valleys. When it was rushing down too quickly he arrested it with the stick, or with the same stick brought it back on the track when it was turning aside from its proper course." The description, of course, is a direct excerpt from the writings of Agricola in the 16th century.

\* \* \* \*

¶ Life is full of variety at the McCrea Island camp where half a dozen INCOites are spending the summer, but it took a new twist recently for Hunter Nicol. In a moment of extreme weakness Nic yielded to the suggestion that Ed McGill cut his hair for him. After dodging the bright spots for two weeks waiting for a new crop of locks to sprout, he finally left with Bill Luke on a three-week canoe trip into the wilds, figuring that he may have regained a normal appearance by the time he returns.

\* \* \* \*

¶ Congratulations to Mrs. Durban Nixon, wife of one of Triangle's Port Colborne scribes, who won the Niagara District tennis championship again this year.

\* \* \* \*

¶ A son born on June 26 to Mr. and Mrs. Rinaldo Pierini of Creighton, was their 22nd child, of whom 11 are living.

\* \* \* \*

¶ Ted Lawrence, Creighton's tennis promoter, reports about 45 members making use of his club's courts this year. Creighton played its first inter-club match of the season on July 31, having High Falls enthusiasts as its guests.

\* \* \* \*

¶ Organizing its horseshoe equipment and laying out courts near its softball diamond for the enjoyment of its members, Copper Cliff Benefit Association picked up some expert advice from Ken Caldwell, of Henry Latinville's Orford building crew. An old shoe-tosser from away back, Ken is the un-



A fishing party which included Frank Jordan, Fred Stevens and Ross Bryan of Copper Cliff concentrator, certainly hauled 'em in the week-end of June 20 at Iron Bridge on the Soo road. Here Ross Bryan and Frank Jordan pose modestly with the catch, all of which were luscious speckled trout. That whopper in the centre weighed four and a quarter pounds. We count 23 in the bunch, but probably there's another row of them in behind.



official Copper Cliff pro, and is willing to give lessons on the finer points of the game.

\* \* \* \*

¶ With Sudbury Canadian Legion promising to send an All-Star team to the provincial playdowns in Toronto, a juvenile baseball league has been formed with entries from Creighton under Charlie Cerre and Leo McLaughlin, Copper Cliff under Roy Longfellow, and Sudbury under Ernie Kinschular.

\* \* \* \*

¶ Mr. and Mrs. Arthur Legault, of Creighton, are the proud parents of the young husky who was judged the biggest and best baby in the Baby Show at the Lions Club celebration on July 1st. His name is Normand, he was just two-years-old on July 4th, and he tipped the scales at 41 pounds. Sounds like a good prospect for George Black's Community Hall wrestling class.

\* \* \* \*

¶ After 44 years of service (Triangle, September '36), W. A. Macdonell on June 30 retired as general manager of INCO's Coniston smelter, and has made his new home in Toronto. He is succeeded by E. T. Austin, whose previous post as assistant general manager is taken over by Frank G. Murphy.

\* \* \* \*

¶ Sport takes its toll from time to time. Centre-fielder Higgs cracked out a home run in the ninth inning with two men on bases, and the game was won 12-11 for Orford over Concentrator in the Copper Cliff Benefit Association Softball League, but coming into home plate Higgs slipped and snapped his wrist. Another minor casualty was George "Pop" Simpson of Frood Tigers, who in one of the Dominion Cup football semi-finals at Toronto received a blow from one of the opponents' boots when he attempted to head the pigskin, and suffered a fractured jaw. He stuck with the ship, though, and scored his team's only goal of the game.

\* \* \* \*

¶ "Ollie" Hoffman, who crossed me up and won the \$4,000 house the Lions' Club raffled off on July 1st, was formerly a tinsmith in the Copper Cliff shops.

\* \* \* \*

¶ Magistrate: "What induced you to strike your wife?"

Husband: "Well, your Wurship, she 'ad'er back to me, the frying pan was 'andy, and the back door was open, so I thought I'd take me chance."

\* \* \* \*

¶ After a full 21 years of service to Nickel Belt sport, Bert Flynn of Copper Cliff, quietly stepped out of the harness on June 26, turning over management of the baseball club to energetic Tom Strong of the concentrator. To remove sport completely from Bert's daily diet would be like cutting a deep-sea diver's air hose, so he's holding a watching brief at the league games, doing some umpiring, and getting in some softball and tennis. Also he's enjoying the unique pleasure of eating his evening meal at the usual hour, something he hasn't done very often in all the years he's been dashing away from his office right after work with one of his teams, to return late at night and snatch a snack before bed.

\* \* \* \*

¶ Dan Stack, the Coniston puckster-golfer, (Triangle, May '37) has his woods and irons clicking sweetly and as predicted is reeling off some pretty golf this season. With a 69, just one over par, he led the qualifying round in the Sudbury Golf Club championship, and later, over the same course, shot a 32 for nine holes, which is two under par and only one stroke over the course record. Nickel Belt goalies can expect plenty of grief from Dan when the hockey season rolls around; his shooting eye seems to be in A1 condition.



Few men put their hobbies to such good advantage as has S. A. Crandall of Copper Cliff Engineering Dept. Woodworking is "Sac's" pet diversion, and his summer home at West Bay, Lake Penage, about 50 miles from Copper Cliff, is evidence of his skill and that of his sons Arnold and John. They designed and built the log cabin, and have themselves made every piece of furniture in it. They also made the boat which takes them off on their fishing trips. Here's the cheery living room at Camp Secoma, the name being a combination of Seattle, Mrs. Crandall's birthplace, and Tacoma, "Sac's" home town.

¶ Among the newly enrolled vocalists in the INCO juvenile chorus are: to Mr. and Mrs. R. Hood of Coniston, a son; to Mr. and Mrs. Alphonse Pednaud of Copper Cliff, on June 26, a daughter; to Mr. and Mrs. Albert Farenzeno of Garson, on July 2, a daughter; to Mr. and Mrs. Alfred Rivard of Coniston, on July 20, a daughter; to Mr. and Mrs. Robert Beggs of Creighton, on July 4, a daughter; to Mr. and Mrs. Robin Hood of Coniston, on June 18, a son; to Mr. and Mrs. B. F. Crandall of Creighton, on August 6, a son; to Dr. and Mrs. J. A. Munro of Copper Cliff, on June 29, a daughter; to Mr. and Mrs. Charlie Secen of Creighton, on July 24, a son; to Mr. and Mrs. Sam Palamariuk of Creighton, on July 22, a son; to Mr. and Mrs. Morgan Shoveller of ORCO, on July 22, a daughter.

\* \* \* \*

¶ Recently wed: Ed. Cole of Garson to Louise Bauchman, at Halifax, N.S., on July 14; Vincent Thorn of Frood to Myrtle Carr, at Sudbury on June 26; J. R. Regan of Frood to Mary St. Jean, at Creighton on July 17; Clyde Dunsmore of Garson to Daisy Ballantyne, at Sudbury on July 20.

\* \* \* \*

¶ About 75 attended the very enjoyable banquet given for members of the Frood Welfare Committee and their wives in the Nickel Range Hotel, July 25. An impromptu program was presented, with H. J. Mutz as chairman.

\* \* \* \*

¶ Lady Luck smiled sweetly on Fred Ribout of the Frood First Aid staff. Just a few days before he was scheduled to leave on his holidays, he picked off \$60.00 in a baseball sweep.

\* \* \* \*

¶ Mrs. Bob Faddis, I'm told, is just as glad that the camping trip she and her husband took to Trout Lake, near North Bay, is over. Every day they were at camp Bob, who is one of Frood's inveterate fishermen,

vanished with his tackle box at 4.00 a.m. and returned about 11.00 p.m. On the trip back home, apparently, he even kept a line out of the side of the car, just in case, and narrowly missed hooking a telephone pole and a passing traffic cop.

\* \* \* \*

¶ A proud parent called the News Desk the other day to report the birth of twins. The editor didn't catch the message over the phone clearly and asked, "Will you repeat that, please?" He was somewhat surprised with the reply, "Not if I can help it."

\* \* \* \*

¶ In the canoe-tilting contest at the Mining Engineering department's picnic, the Frood team of Earl Gilchrist and George Thorpe were so good that they went out and eliminated themselves by dumping over before the event got started. They modestly explained to friends later that no other team could have done it to them.

\* \* \* \*

¶ Even "The-One-That-Got-Away League" will be hard pressed to dig up something to match the tale that Bill Currie, one of Chief Ramsbottom's husky henchmen, brought back from a July fishing jaunt. Into the bush back of Markstay went Bill, dropped his line in the deep still waters of Lake Kukagami, and brought forth trout like this:—Four or five 9-pounders, a 15-pounder, and a 22-pounder. Them's mighty big fish. Bill used to be Conservative Chieftain R. B. Bennett's bodyguard and chauffeur before he signed up with INCO.

\* \* \* \*

¶ A tourist was prowling around a Scottish churchyard. His eyes met an epitaph, "Lord she was thin."

"Say, sexton, what d'ye make of that?" he asked.

"That's alright, sir; the sculptor went over too near the edge of the stone and diana have room for the 'e.'"

# LIVED WITH THE ESKIMOS

**Frood:**—It's a long jump from the North West Territories to Frood's 2,000 level, but that's the stretch Frank Crome's memory covers in lunch-time reveries.

Born in 1896 in Birmingham, England, he was educated at King Edward's High School and Birmingham University, and then harked to the call of adventure, coming to Canada in 1914 to join the R.C.M.P.

## AT OUTLYING POSTS

His first post as a Mountie was at Rosethorn, Sask., after which he went to Prince Albert. In 1916 he was sent with six other constables to The Pas, Manitoba, which was then running pretty wild. From The Pas he was transferred to Split Lake, on the route to Fort Churchill, and remained on the Indian Reserve there until 1917. Then he was sent to Baker Lake, North West Territories, on the Bathurst Inlet Patrol. After that he moved to the detachment at Cape Fullerton, and from that point made several long patrols.

From 1917 to 1920, when he resigned from the scarlet-coated Force, he had many interesting and amusing, although sometimes grim, experiences among the Eskimos.

## MISTAKEN ESKY

"Most people," Frank writes to the Triangle, "have many mistaken ideas about the Eskimos and their mode of living.

"It is generally understood that the Eskimo is greasy, stunted both physically and mentally, and savage. This is not so, for although they are somewhat shorter in physique than the whites on the average, I have met many of them bigger in every

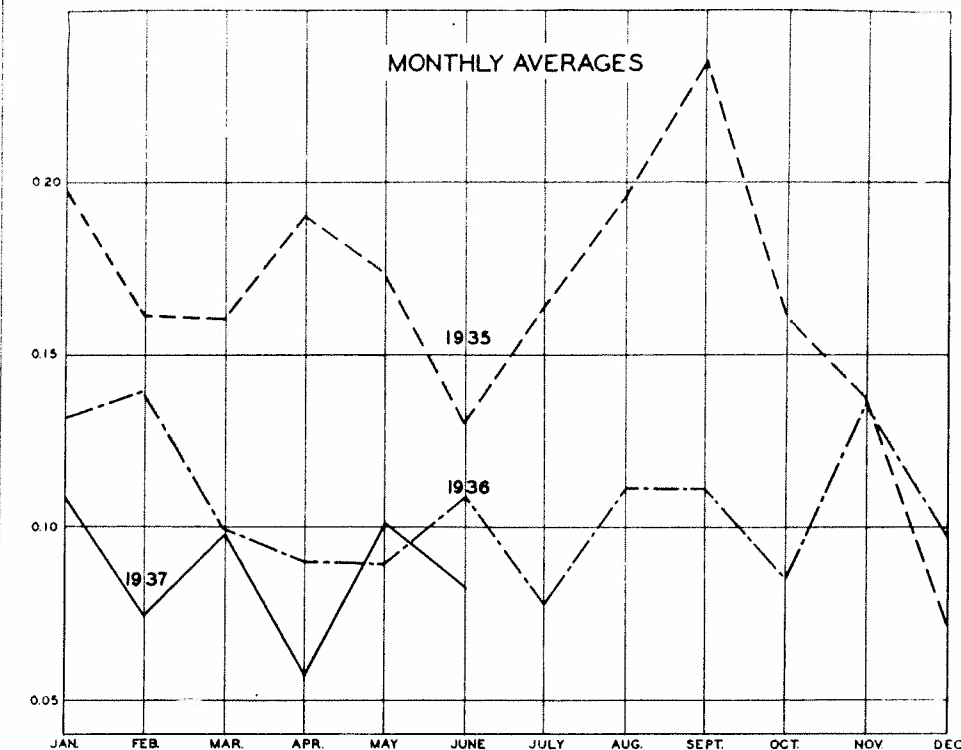


FRANK CROME

way than myself and I am no dwarf. Mentally they have no superior for natural intelligence.

"Again most people figure the climate to be almost unliveably cold, but if one adapts oneself to the Eskimo mode of living, one is surprised to find that one does not have to worry about the cold in winter, but rather how to keep cool.

"Clothed as a native, it takes very little exertion to start perspiring, and so the cloth-



Despite the fact that the total number of men and the scale of operations are considerably increased, co-operation by employees is still holding the number of accidents-per-1000-shifts-worked to new low marks in the Company's history. Figures for June, released by the Safety Department, show that for the month there were .083 accidents-per-1000-shifts-worked, as compared with .108 for June of 1936. The improvement in 1937 over both 1936 and 1935 are clearly evident in the above chart. May the good work continue!

ing becomes wet and when you sleep you take off everything and get into a deerskin sleeping bag. The next morning when you come to put on your clothes, you find them stiff as a board and then you wish you had not got so warm the previous day.

"Maybe you will say, 'Well, why don't you dry them first?' But you must understand that this is the Barren Lands and fire is a negligible factor—the only heating apparatus we carried was a small primus lamp which was mostly used for tea.

"This brings me back to the so-called greasy habits of the Eskimos. This is almost an entire fallacy for while it is admitted that there is a certain amount of blubber on seal meat, it is only there because when skinning a seal, a certain amount of the blubber adheres to the meat and although this is palatable, I can assure you that it is no prized delicacy. The staple diet of the Barren Land Eskimo is the Barren Land Caribou and because these animals depend on moss and stunted willow, they very seldom have any fat on them.

## DON'T USE SNOW

"We are taught that when frost bitten that the best thing to do is to rub it with snow. The Eskimo never does this, but simply puts some unfrozen member against the frost bitten part and thus thaws it out. Rubbing with snow will only rub off the skin and cause a very painful condition when eventually thawed out.

"We think that the Eskimo has an awful life of it but from what I have seen of things he is much happier than we civilized people. Admitted, he has hardships, but his fatalistic nature overcomes these almost as though they were his appointed lot.

"During my stay among them I ran into many amusing circumstances.

"In the spring of 1918, two Eskimos and I were out hunting and had killed two deer. These we hauled to an igloo and then bedded down for the night. The igloo was an old

one and the sun had melted it until it was pretty thin. During the night, we were awakened up by some animal dropping on top of us through the roof.

## SURPRISE GUEST

"I naturally thought it was one of the dogs after the deer meat, and feeling the fur, hit it a slap and said, 'Get out of here, mister,' but the animal immediately grabbed one of the Eskimos by the shoulder. The other, realizing it was a wolf and not a dog, grabbed an axe and there sure was a rough house for a while. I was plenty scared when I saw what a whopper this wolf was, and was mighty thankful when it gasped its last.

"There was a case up there where an Eskimo got up against it while out hunting, and died away from his igloo. His wife, on his non-return, set out to find him. She was starving too, but eventually found him. She built an igloo and hunted for a while, but got so weak she could not travel any more, so she eventually cut her husband up and ate him.

## TACITURN FELLOW

"The Eskimo's life is governed by innumerable superstitions and one of these is to cut out the tongue, or slit it, immediately after shooting a deer.

"One day I knocked over a deer and the Eskimo drew his knife to cut its tongue, but the deer was not quite dead and heaved its head. One of the prongs of the antlers caught the Eskimo in the nostril and tipped it open. The Eskimo, famous for his fatalism and his taciturnity, eloquently remarked, 'Ugh!'

Back to civilization in 1920, Frank went to work at the Hollinger Mine until 1926, then hiked out to British Columbia where he worked his way as a hobo miner from Stewart down the Coast, through the Crow's Nest Pass, and finally back to Ontario. For a year he was at the Errington Mine, then started at the Frood.